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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,270	11/08/2001	Gregory S. Hageman	020618-000120US	3566

20350 7590 11/21/2006

TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER

SEHARASEYON, JEGATHEESAN

ART UNIT	PAPER NUMBER
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1647

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,270

Applicant(s)

HAGEMAN ET AL.

Examiner

Jegatheesan Seharaseyon, Ph.D

Art Unit

1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 10, 11, 21-25 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 3, 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 10, 11, 21-25 and 29-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☒ Other: Appendix A-C.

DETAILED ACTION

1. The Office Action mailed 8/23/06 has been vacated. A corrected Office Action follows. Appendix A-C are included. The reply period for this Office Action will start from the mailing date of this communication.

2. This office action is in response to the amendment and remarks filed on 6/7/06. Claims 29-31 have been amended. Claim 26 is canceled. Therefore, claims 1-5, 10-11, 21-25 and 27-31 are currently pending and are examined.

3. The text of those sections of Title 35, U. S. Code not included in this action can be found in a prior Office action.

4. Any objection or rejection of record, which is not expressly repeated in this action, has been overcome by Applicant's response and withdrawn.

5. The Office is withdrawing the allowance of claims 5, 10 and 11 due to the new grounds of rejections applied below.

Claim Rejections - 35 USC § 112, first paragraph (maintained)

6. The rejection of claims 4-5, 10-11 and 21-22 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for nucleotides encoding a polypeptide of SEQ ID NO: 2, does not reasonably provide enablement for the various fragments complement encoding a polypeptide comprising at least 190 contiguous amino acids residues of SEQ ID NO: 2 is maintained for reasons set forth in the Office Action dated 1/31/06 (pages 6-11) and below. Wand's factors were discussed in the previous Office Action dated 1/13/06. Applicant in the response filed 6/7/06 has not

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indicated how complement will encode the polypeptide of SEQ ID NO: 2. As indicated previously there is a single polynucleotide disclosed with reference to IPM150 isoform A, SEQ ID NO: 2. There is no enabling disclosure to support a complementary sequence to encode a polypeptide of SEQ ID NO: 2. Despite knowledge in the art for producing a polypeptide the specification fails to provide any guidance regarding its complementary nucleotide sequences to encode polypeptide of SEQ ID NO: 2. Thus, undue amount of experimentation would be required to generate the polypeptide of SEQ ID NO: 2 using the complementary sequences. Claims 5, 10, 11 and 21-22 are rejected insofar as they depend from claim 4.

7. The rejection of claims 4-5, 10-11 and 21-22 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention is maintained for reasons set forth in the Office Action dated 1/31/06 (pages 3-6) and below. Applicant in the response filed 6/7/06 has not indicated how complement will encode the polypeptide of SEQ ID NO: 2. The specification discloses the nucleotides of SEQ ID NO: 1 and nucleotides encoding SEQ ID NO: 2 (Page 10, paragraph 47). This meets the written description provisions of 35 USC 112, first paragraph. However, the specification does not disclose a complementary sequence that encodes a polypeptide comprising at least 190 amino acid residues of SEQ ID NO: 2 contemplated by the Applicant. The claims as written, however, encompass sequences which were not originally contemplated and fail to meet the written

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description provision of 35 USC 112, first paragraph because the written description is not commensurate in scope with the recitation of claim 4. The specification does not provide written description to support the genus encompassed by the instant claim. As a result, it does not appear that the inventors were in possession of complementary polynucleotide sequence set forth in claim 4. Therefore, only isolated polynucleotide encoding SEQ ID NO: 2 but not the full breadth of the claim meets the written description provision of 35 USC 112, first paragraph. Claims 5, 10, 11 and 21-22 are rejected insofar as they depend from claim 4.

Claim Rejections - 35 USC § 112(New)

8. Claims 1, and 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8a. Claim 1 is rejected as being indefinite because the claim recites "wherein said nucleic acid segment is 100 to 3330 nucleotides in length and has sequence identity to SEQ ID NO: 1". The Office is assuming that the nucleotide fragment contemplated could have any percentage identity to SEQ ID NO: 1 and thus the claim is considered indefinite. Applicant can obviate the rejection by amending the claim to recite "wherein said nucleic acid segment is 100 to 3330 contiguous nucleotides of SEQ ID NO: 1". Claims 23-25 are rejected insofar as they depend from claim 1.

Claim Rejections - 35 USC § 102(New)

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9a. Claims 1, and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Macke et al. (1996, Accession No.W26960).

Macke et al. (1996, Accession No.W26960) discloses a 561bp cDNA fragment (EST) from human retinal library. Claim 1 is drawn to polynucleotide comprising a nucleic acid segment or its complement that is 100 to 3330 nucleotides long that has identity to SEQ ID NO: 1. It is noted that the claim does not indicate any specific percent identity. In addition, claims 29-31 are drawn to polynucleotide primers or probes comprising a nucleotide sequence that is identical to or complementary to SEQ ID NO: 1 and between 12 and 100 contiguous nucleotides in length. As can be seen in Appendix A, the EST fragment disclosed by Macke et al. contains at least 300bp that are identical to SEQ ID NO: 1. Therefore, claims 1 and 29-31 are anticipated by Macke et al. (1996, Accession No.W26960).

9b. Claims 1, 23-25 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Gelfand et al. (U. S. Patent No. 5, 466, 591).

Gelfand et al. discloses SEQ ID NO: 11 which has a 20bp that is identical to 20 nucleotides of SEQ ID NO: 1 of the instant invention (see Appendix B). Claim 1 is drawn to polynucleotide comprising a nucleic acid segment or its complement that is 100 to 3330 nucleotides long that has identity to SEQ ID NO: 1. It is noted that the claim does not indicate any specific percent identity. Further, claims 23 and 24, are drawn to nucleic acid segment that is at least 500 and 1000 nucleotides long and that has identity to SEQ IDNO: 1. In addition, claims 29-31 are drawn to polynucleotide primers or probes comprising a nucleotide sequence that is identical to or complementary to SEQ ID NO: 1 and is between 12 and 100 contiguous nucleotides. Therefore, claims 1, 23-25 and 29-31 are anticipated by Gelfand et al. (U. S. Patent No. 5, 466, 591).

9c. Claims 1, 23, 24 and 29-31 are rejected under 35 U.S.C. 102(a) as being anticipated by Felbor et al. (1998, Reference C10 on PTO1449 of 2/05/2004, also Accession No. AF017776.1).

Felbor et al. (1998, Accession No.AF017776.1) discloses a 1235 bp cDNA fragment of human interphotoreceptor matrix gene (IPM150), exon 17. There is identity to about 700 nucleotides and appears not to be non-coding. . Claim 1 is drawn to polynucleotide comprising a nucleic acid segment or its complement that is 100 to 3330 nucleotides and has identity to SEQ ID NO: 1. Further, claims 23 and 24, are drawn to nucleic acid segment that is at least 500 and 1000 nucleotides long and that has identity to SEQ IDNO: 1. In addition, claims 29-31 are drawn to polynucleotide primers or probes comprising a nucleotide sequence that is identical to or complementary to SEQ

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ID NO: 1 and is between 12 and 100 contiguous nucleotides. As can be seen in Appendix C1-2 the cDNA fragment disclosed by Felbhor et al. contains at least 1235bp and has identity to SEQ ID NO: 1. Therefore, claims 1, 23, 24 and 29-31 are anticipated Felbor et al. (1998, Reference C10 on PTO1449 Of 2/05/2004, also Accession No.AF017776.1).

Conclusion

10. Claims 2, 3, 27 and 28 are allowable.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jegatheesan Seharaseyon, Ph.D whose telephone number is 571-272-0892. The examiner can normally be reached on M-F: 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on 571-272-0961. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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Page 8

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS

Art Unit 1647,
October 10, 2006

**CHRISTINE J. SAOUD
PRIMARY EXAMINER**

Christine J. Saoud


```

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/sex="mixed (males and females)"
/tissue_type="retina"
/dev_stage="adult"
/lab_host="B. coli strain K802"
/clone_lib="Human retina cDNA randomly primed eublibrary"
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Site 2: EcoRI; The library used for sequencing was a
sublibrary derived from a human retina cDNA library.
Inserts from retina cDNA library DNA were isolated,
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into lambda gt10. Individual plaques were arrayed and
used as templates for PCR amplification, and these PCR
products were used for sequencing."

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ORIGIN

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Best Local Similarity 93.4%; Pred. No. 1.7e-91;
Matches 493; Conservative 0; Mismatches 33; Indels 2; Gaps 21.

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QY 1283 AGGAAGACAACTTTTGATGTGGGACAAATTCAGTTCACTGATGAATTCCTGATCAC 1342
DB 473 GCGAAGACCAATCTTGATGTGGGACAAATTCAGTTCACTGATGAATTCCTGATCAC 414

QY 1343 TGCCAGCCTTTGGTCTGACCAACCAATCAGAGCTGCCCAATCTTTTGTGTATACAG 1402
DB 413 TGCCAGCCTTTGGTCTGACCAACCAATCAGAGCTGCCCAATCTTTTGTGTATACAG 354

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QY 1463 CAGCAGAGCAATGCTACCTGACACTCTCTGCTCCAGCTGATGAGCTTACCTCC 1522
DB 293 CAGCAGAGCAATGCTACCTGACACTCTCTGCTCCAGCTGATGAGCTTACCTCC 234

QY 1523 TGTCAAGCTCCACCTTCTTTATGGCATCAAGCAATCTCTCTGATGATCAAGCA 1582
DB 233 TGTCAAGCTCCACCTTCTTTATGGCATCAAGCAATCTCTCTGATGATCAAGCA 174

QY 1583 CCACGATACATGCGCATGACAGCAATGCTAGTACAGGCTCAGCATGCCAGCA 1642
DB 173 CCACGATACATGCGCATGACAGCAATGCTAGTACAGGCTCAGCATGCCAGCA 114

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DB 113 GTGATTAATTCGCAATCAGGCAACTGGCTCTGGGAATTCACATCCACTGCACTTCAG 54

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DB 53 ATGACAGCCGATCAAGTGAGAGGTGGGAGATATGCTCAGACACCTA 6

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Search completed: March 1, 2004, 20:29:00
Job time : 8160 secs

Tue Jan 17 14:25:45 2006

US-10-007-270-1.oligo.in1

Page 10

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ORGANISM: Human
US-09-949-016-161496

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RESULT 9
US-08-617-785-5
Sequence 5, Application US/086177858
Patent No. 6228610
GENERAL INFORMATION:
APPLICANT: Flor, Peter J.
APPLICANT: Kuhn, Rainer
APPLICANT: Lindaur, Kristen
APPLICANT: Puttner, Irene
APPLICANT: Knopfel, Thomas
TITLE OF INVENTION: Human Metabotropic Glutamate Receptor Subtypes (HMR4,
HMR5, HMR7) and Related DNA Compounds
FILE REFERENCE: 4-19679/A/PCT
CURRENT APPLICATION NUMBER: US/08/617,7858
CURRENT FILING DATE: 1996-03-19
EARLIER APPLICATION NUMBER: PCT/EP94/02991
EARLIER FILING DATE: 1994-09-07
EARLIER APPLICATION NUMBER: EPO 9416553.7
EARLIER FILING DATE: 1994-08-19
EARLIER APPLICATION NUMBER: EPO 93810663.0
EARLIER FILING DATE: 1993-09-20
NUMBER OF SEQ ID NOS: 26
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 5
LENGTH: 1399
TYPE: DNA
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: CDS
LOCATION: (1)..(270)
FEATURE:
NAME/KEY: unsure
LOCATION: (920)..(1090)
OTHER INFORMATION: Nucleotides designated as n could be a or g or c
US-09-817-785-5

Query Match 0.6%, Score 20; DB 3; Length 1399;
Best Local Similarity 100.0%; Pred. No. 30;
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DB 283 CATGGAACCATGGAGGAGGA 302

RESULT 10
US-09-817-464-5
Sequence 5, Application US/09817464
Patent No. 6515107
GENERAL INFORMATION:
APPLICANT: Flor, Peter J.
APPLICANT: Kuhn, Rainer
APPLICANT: Lindaur, Kristen
APPLICANT: Puttner, Irene
APPLICANT: Knopfel, Thomas
TITLE OF INVENTION: Human Metabotropic Glutamate Receptor Subtypes (HMR4,
HMR5, HMR7) and Related DNA Compounds
FILE REFERENCE: 4-19679/A/PCT
CURRENT APPLICATION NUMBER: US/09/817,464
CURRENT FILING DATE: 1996-03-19
EARLIER APPLICATION NUMBER: PCT/EP94/02991
EARLIER FILING DATE: 1994-09-07
EARLIER APPLICATION NUMBER: EPO 9416553.7
EARLIER FILING DATE: 1994-08-19
EARLIER APPLICATION NUMBER: EPO 93810663.0
EARLIER FILING DATE: 1993-09-20
NUMBER OF SEQ ID NOS: 26
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 5
LENGTH: 1399
TYPE: DNA
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: CDS
LOCATION: (1)..(270)
FEATURE:
NAME/KEY: unsure
LOCATION: (920)..(1090)
OTHER INFORMATION: Nucleotides designated as n could be a or g or c
US-08-617-785-5

FILE REFERENCE: 4-19679/A/PCT
CURRENT APPLICATION NUMBER: US/09/817,464
CURRENT FILING DATE: 2001-03-26
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EARLIER FILING DATE: 1996-03-19
EARLIER APPLICATION NUMBER: EPO 9416553.7
EARLIER FILING DATE: 1994-08-19
EARLIER APPLICATION NUMBER: EPO 93810663.0
EARLIER FILING DATE: 1993-09-20
NUMBER OF SEQ ID NOS: 26
SOFTWARE: Patent In Ver. 2.0
SEQ ID NO 5
LENGTH: 1399
TYPE: DNA
ORGANISM: Homo sapiens
FEATURES:
NAME/KEY: CDS
LOCATION: (1)..(270)
FEATURE:
NAME/KEY: unsure
LOCATION: (920)..(1090)
OTHER INFORMATION: Nucleotides designated as n could be a or g or c
US-09-817-464-5

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Best Local Similarity 100.0%; Pred. No. 30;
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RESULT 11
US-07-977-434-11/c
Sequence 11, Application US/07977434
Patent No. 5466591
GENERAL INFORMATION:
APPLICANT: Gelfand, David H.
APPLICANT: Abramson, Richard D.
TITLE OF INVENTION: 5' TO 3' EXONUCLEASE MUTATIONS OF
THERMOSTABLE DNA POLYMERASES
NUMBER OF SEQUENCES: 38
CORRESPONDENCE ADDRESS:
ADDRESSER: Hoffmann-La Roche Inc.
STREET: 340 Kingsland Street
CITY: Nutley
STATE: New Jersey
ZIP: 07110-1199
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Macintosh
OPERATING SYSTEM: 7
SOFTWARE: Wordperfect 2.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/977,434
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 590,490
FILING DATE: 28-SEP-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 590,466
FILING DATE: 28-SEP-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 590,213
FILING DATE: 28-SEP-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 523,394
FILING DATE: 15-MAY-1990
PRIOR APPLICATION DATA:

us-10-007-270-1.oligo.in1

Tue Jan 17 14:25:45 2006

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; APPLICATION NUMBER: US 143,441
; FILING DATE: 12-JAN-1988
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 063,509
; FILING DATE: 17-JUN-1987
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 899,241
; FILING DATE: 22-AUG-1986
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 746,121
; FILING DATE: 15-AUG-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/US90/07641
; FILING DATE: 21-DEC-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 585,471
; FILING DATE: 20-SEP-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 455,611
; FILING DATE: 22-DEC-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 609,157
; FILING DATE: 02-NOV-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 557,517
; FILING DATE: 24-JUL-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Luann Cserr
; REGISTRATION NUMBER: 31,822
; REFERENCE/DOCKET NUMBER: Case No. 5466591 8753
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (510) 814-2972
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2679 base pairs
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; ANTI-SENSE: NO
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; LOCATION: 1..2676
; US-07-977-434-11

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RESULT 12
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; Sequence 11, Application US/08458819
; Patent No. 5795762
; GENERAL INFORMATION:
; APPLICANT: Gelfand, David H.
; APPLICANT: Abramson, Richard D.
; TITLE OF INVENTION: 5' TO 3' EXONUCLEASE MUTATIONS OF
; TITLE OF SEQUENCE: THERMOSTABLE DNA POLYMERASES
; NUMBER OF SEQUENCES: 38
; CORRESPONDENCE ADDRESS:
; ADDRESSES: Hoffmann-La Roche Inc.
; STREET: 340 Kingsland Street
; CITY: Nutley
; STATE: New Jersey
; ZIP: 07110-1199

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
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; FILING DATE: 02-JUN-1995
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; FILING DATE: 23-FEB-1993
; APPLICATION NUMBER: US 590,490
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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 609,157
; FILING DATE: 02-NOV-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 557,517
; FILING DATE: 24-JUL-1990
; ATTORNEY/AGENT INFORMATION:
; NAME: Luann Cserr
; REGISTRATION NUMBER: 31,822
; REFERENCE/DOCKET NUMBER: Case No. 5795762 8753
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (510) 814-2972
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 2679 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; ORGANISM: Thermophilic africanus
; FEATURE:
; NAME/KEY: CDS
; LOCATION: 1..2676
; US-08-458-819-11

Query Match 0.6%, Score 20; DB 2; Length 2679;
US-08-458-819-11
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Query Match	24.70	Score	823.6	DB	14	Length	132145
Best Local Similarity	97.8%	Prod. No.	2.3e-176				
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							Gaps
							0

QY	2477	TTAAAAAGTTCGAAATCAACAAAAATACACAGGTATACGTAAAAAGAAATTCGAAATAC	2536
DB	39723	TCTTAGTCTTCAAACTATTCTCTTTTCAGTATACGTAAAAAGAAATTCGAAATAC	39782

QY	2537	TGACCGTAGAATA	TGAGAAATTTAA	CAATCAAGATTTGGGAAAGGAAATTTAAAAATCTGAAA	2596
DB					
QY	39783	TGACCGTAGAATA	TGAGAAATTTAA	CAATCAAGATTTGGGAAAGGAAATTTAAAAATCTGAAA	39842
DB					
QY	2597	TGTACAAATATCA	CTTTAGCGCTATCT	CAAGAGAGATGATATTCGCTTCTCAAGGAAATATGA	2656
DB					
QY	39843	TGTACAAATATCA	CTTTAGCGCTATCT	CAAGAGAGAGATGATATTCGCTTCTCAAGGAAATATGA	39902
DB					
QY	2657	GACAGGCATATTC	ATGCGCTCATCAAAAT	TCAGACATACAGATCAACATCTGAGAAATCAGCAC	2716
DB					
QY	39903	GACAGGCATATTC	ATGCGCTCATCAAAAT	TCAGACATACAGATCAACATCTGAGAAATCAGCAC	39962
DB					
QY	2717	ACACCATATTTCCAA	TATATGAGAGAGCTAT	TACTTGGCAACAGATTAATTTCTGAAAAA	2776
DB					
QY	39963	ACACCATATTTCCAA	TATATGAGAGAGCTAT	TACTTGGCAACAGATTAATTTCTGAAAAA	40022
DB					
QY	2777	AGACACTTACTTAT	TTATTAAGAACCCCAAA	TGCAATTCGCAAGCAACATATTTTACTATTTCT	2836
DB					
QY	40023	AGACACTTACTTAT	TTATTAAGAACCCCAAA	TGCAATTCGCAAGCAACATATTTTACTATTTCT	40082
DB					
QY	2837	TGGAATGATAGTCA	MAAATGATATTAAGCC	AGAGTTTCTTCCACTTCCCTCGAAAAATTTTAC	2896
DB					
QY	40083	TGGAATGATAGTCA	MAAATGATATTAAGCC	AGAGTTTCTTCCACTTCCCTCGAAAAATTTTAC	40142
DB					
QY	2897	TCACAGATCATTTG	CAACAGCATAGCTTACT	TATATGTTTAGGGAGCTCGAAACAAATTTATTC	2956
DB					
QY	40143	TCACAGATCATTTG	CAACAGCATAGCTTACT	TATATGTTTAGGGAGCTCGAAACAAATTTATTC	40202
DB					
QY	2957	CGAAGCAAACTCTT	TATATCTGTAGAAAGAT	ATGATCTTTAAAGATATGACTACTTACCGCAGGAG	3016
DB					
QY	40203	CGAAGCAAACTCTT	TATATCTGTAGAAAGAT	ATGATCTTTAAAGATATGACTACTTACCGCAGGAG	40262
DB					
QY	3017	ATGCAAGTCTCTCT	TAAAGCCATGAATAT	TATATGATGTTTAGGGCACTGTATAGTGTGTATAT	3076
DB					
QY	40263	ATGCAAGTCTCTCT	TAAAGCCATGAATAT	TATATGATGTTTAGGGCACTGTATAGTGTGTATAT	40322
DB					
QY	3077	TATCTCTCAGACTAG	CTGTGTATTAACACAAAC	CTCTGATATTCAGTTATTAGCGCACACTAG	3136
DB					
QY	40323	TATCTCTCAGACTAG	CTGTGTGTATTAACACAAAC	CTCTGATATTCAGTTATTAGCGCACACTAG	40382
DB					
QY	3137	TTTTATAGCGCAACT	ACTGCTTACATAGTAGA	CTGTTTTTTGTCGCAATATATCTTTGAAATTC	3196
DB					
QY	40383	TTTTATAGCGCAACT	ACTGCTTACATAGTAGA	CTGTTTTTTGTCGCAATATATCTTTGAAATTC	40442
DB					

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Qy	2477	TTAAAGGTTCCAAATATCAACAAATAACACAGGTAAATCAAGTAAAGAGAAATCTGAAATAC	2536	
Dd	381	TTCTTAAGTTCTTAAAGATATTTCTCTTTCAGGTAAATCAGTAAAGAGAAATCTGAAATAC	440	
Qy	2537	TGACCGTAGAATATGAGAAATTTAAACATCAAGATTCGGACAGAAATTAAGAAATCGAAAA	2596	
Dd	441	TGACCGTAGAATATGAGAAATTTAAACATCAAGATTCGGACAGAAATTTAAAGATCGAAAA	500	
Qy	2597	TGTACAAATATCACTTAGGCTATCTCAAGAGAGATGATTTGGCTCTCTCAAGGAAATCGAA	2656	
Dd	501	TGTACAAATATCACTTAGGCTATCTCAAGAGAGATGATTTGGCTCTCTCAAGGAAATCGAA	560	
Qy	2657	GACAGCATATTCATGGGTGCATCAAAATCCAGACATACAGTCAAGCTGAGATTCAGAAC	2716	
Dd	561	GACAGCATATTCATGGGTGCATCAAAATCCAGACATACAGTCAAGCTGAGATTCAGAAC	620	
Qy	2717	ACACCAATATTTCAAAATATAGAGAGTGCTATGTACTTTGGCAACCGTAAATCTCGAA-AAAA	2775	
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Dd	681	AAGACACTTACTTATTTATTAANAACCCCAATCCGAATCGATCAAGCAACATATTTTACTATTC	740	
Qy	2836	TTGGATGATAGTCCAAATGATCATAGCCAGAGTTTGGTCCCACTCTTCCTGGAATTTTAA	2895	
Dd	741	TTGGATGATAGTCCAAATGATCATAGCCAGAGTTTGGTTCCTCTTCCCTGGAATTTTAA	800	
Qy	2896	CTCAGAGATCATTTGCAACAGCAATAGCTTACTTATTTGTTTAAAGCATGACACATTTATT	2955	
Dd	801	CTCAGAGATCATTTGCAACAGCAATAGCTTACTTATTTGTTTAAAGCATGACACATTTATT	860	
Qy	2956	GGGAAGCAAACTCTTTATATCTAGAAAGATGACATTTAAAGATATGACTACTTACGCAAGGA	3015	
Dd	861	GGGAAGCAAACTCTTTATATCTAGAAAGATGACATTTAAAGATATGACTACTTACGCAAGGA	920	
Qy	3016	QATGCAAGTCTCTTAAACGCAATGAATGTATATGTAAGTGTGTAGGCACTGTAGTCAAGTGAT	3075	
Dd	921	QATGCAAGTCTCTCTTAAACGCAATGAATGTATATGTAAGTGTGTAGGCACTGTAGTCAAGTGAT	980	

Qy	3076	ATATGTCGACACTACCTCTGATTAAGACGACAACTCAGATTAATGAGCGACACTA	3135
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Qy	3196	GTTCCTTAAAGAGAACTAGAGTTTCAGATACACATACCAAGGAAAAATCTTACTTTCTTG	3255
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Qy	3256	TTACTACACAAAGCTATTTTAAAGAGAGATGCTTATTTGGGACAGAGCGGAAAGTTTACTA	3315
Db	1161	TTACTACACAAAGCTATTTTAAAGAGAGATGCTTATTTGGGACAGAGCGGAAAGTTTACTA	1220
Qy	3316	TATGCAATATCAAT	3330
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LOCUS		816 bp DNA linear	PRI 28-OCT-1998
DEFINITION		Homo sapiens interphotoreceptor matrix gene (IPM150), exon 13.	
ACCESSION		AF017772	
VERSION		AF017772.1	Q1.3800727
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SOURCE			
ORGANISM			
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		Mammalia; Eutheria; Euarchontoglires; Primates; Catherhini;	
		Homnidae; Homo.	
REFERENCES			
AUTHORS		1 (bases 1 to 816)	
		Polbor,U., Gehrig,A., Bauer,C.G., Marquardt,A., Kohler,M.,	
		Schmid,M. and Weber,B.H.	
TITLE		Genomic organisation and chromosomal localisation of the	
		interphotoreceptor matrix proteoglycan-1 (IMPG1) gene: a candidate	
		for 6q-linked retinopathies	
JOURNAL		Cytogenet. Cell Genet. 81 (1), 12-17 (1998)	
PUBMED		9691169	
REFERENCES			
AUTHORS		2 (bases 1 to 816)	
		Gehrig,A., Polbor,U., Kelsell,R., Hunt,D.M., Muenner-Ruesele,I.B.	
		and Weber,B.H.P.	
TITLE		Assessment of a novel interphotoreceptor matrix gene (IPM150)	
		localized to 6q14.2-q15 in autosomal dominant Stargardt-like	
		macular dystrophy, progressive bifocal choriorretinal atrophy	
		(PBCRA), and North Carolina macular dystrophy (MCDRI)	
JOURNAL		Unpublished	
REFERENCES			
AUTHORS		3 (bases 1 to 816)	
		Polbor,U., Kuehn,M., Hageman,G.S. and Weber,B.H.P.	
TITLE		Direct Submision	
JOURNAL		Submitted (09-AUG-1997) Humangenetik, Universitaet Wuertzburg, Am	
		Hubland, Wuertzburg D-97074, Germany	
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		Matches 537; Conservative	0; Mismatches 2; Indels 0; Gaps 0;
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